$$P(\mu - k\sigma < Z < \mu + k\sigma) = P\left(-k < \frac{Z-\mu}{\sigma} < +k\right)$$
$$= \Phi(k) - \Phi(-k) = \Phi(k) - (1 - \Phi(k))$$
$$= 2\Phi(k) - 1$$

$2\Phi(1) - 1 \approx 0.6826$

$2\Phi(2) - 1 \approx 0.9544$

$2\Phi(3) - 1 \approx 0.9972$

$Y = X_1 + X_2 + \cdots + X_n$

$$E[Y] = E[X_1 + X_2 + \cdots + X_n] = E[X_1] + E[X_2] + \cdots + E[X_n]$$
$$= n\mu$$

$$Var(Y) = Var(X_1 + X_2 + \cdots + X_n) = Var(X_1) + Var(X_2) + \cdots + Var(X_n)$$
$$= n\sigma^2$$